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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/767,908

01/29/2004

Iain F. McVey

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EXAMINER

CONLEY, SEAN EVERETT

ART UNIT

PAPER NUMBER

1744

MAIL DATE

DELIVERY MODE

09/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/767,908

Applicant(s)

MCVEY ET AL.

Examiner

Sean E. Conley

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-17 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 16 and 21-24 is/are allowed.
- 6) ☒ Claim(s) 12-15, 17 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 20 and 29-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/29/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL REJECTION

Response to Amendment

1. The amendment filed on June 8, 2007 has been received and considered for examination. Claims 11-17 and 20-32 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 25 recites the limitation "the hydrogen peroxide vapor" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. Claim 26 is also rejected since it depends from and includes all of the limitations of claim 25.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adiga et al. (U.S. Patent Application Publication No. US 2004/0005240 A1) as evidenced by Karamanos et al. (U.S. Patent Application Publication No. US 2003/0171092 A1).

Regarding claim 12, Adiga et al. disclose a process of decontaminating that includes the step of circulating hydrogen peroxide vapor (mist) through HVAC ducts as well as rooms of a building (see paragraphs [0048]-[0052]). It is well known that conventional HVAC systems contain numerous bends and changes in the direction of the ductwork in order to deliver a flow of air to different parts of the room or different floors of a building. Additionally, HVAC systems recirculate air from the rooms through the return ducts and therefore, it is obvious that the hydrogen peroxide vapor (mist) in the method of Adiga et al. is circulated in one direction as it passes through the duct to the room and then in an opposite direction when it is returned from the room through the recirculating return duct (this recirculation is also evidenced by Karamanos et al. (U.S. Patent Application Publication No. US 2003/0171092 A1) – see figure 1). Furthermore, Adiga et al. emphasizes that the duration of treatment corresponds to the concentration of the hydrogen peroxide vapor (mist) and that the duration is either increased or decreased depending upon the treatment situation (see paragraphs [0049]-[0052]). Thus, it is obvious that the hydrogen peroxide vapor is left in the HVAC ductwork and associated rooms for a predetermined dwell time while it is circulated.

Art Unit: 1744

6. Claims 13, 14, 17 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adiga et al. as evidenced by Karamanos et al. as applied to claim 12 above, and further in view of Karamanos et al. (U.S. Patent Application Publication No. US 2003/0171092 A1).

Adiga et al. is silent with regards to automatically opening and closing temporary baffles located near registers between the HVAC ductwork and the rooms in response to sensed conditions.

Karamanos et al. disclose a self-contained ventilation flow control system for a HVAC system, the flow control system comprising a plurality of flow control units (having electronically controlled baffles) and a master control unit (108) having a user interface (112) that is located remotely from the baffles (flow control units (102)). The baffles (flow control units (102)) are mounted within the HVAC ductwork (see figures 1-2; see entire document; especially paragraphs [0002], [0006], [0014], [0026]-[0027]. The system further includes a plurality of sensors including flow sensors and temperature sensors which are used to adjust the baffles in response to sensed conditions in the room or ductwork (see paragraphs [0026]-[0027], [0029]). This device is useful for isolating rooms of a building that are to be decontaminated (see paragraph [0006]). Furthermore, the baffles can be removed from the HVAC duct and therefore can be considered temporary.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Adiga et al. and include the steps of installing temporary baffles in the ductwork, automatically control the opening

Art Unit: 1744

and closing of baffles based on sensed conditions, and furthermore, isolate certain rooms that are to be decontaminated as taught by Karamanos et al. in order to control which rooms are to be decontaminated by hydrogen peroxide vapor (as well as isolate rooms that are safe) and also ensure that sufficient flow rates and temperatures have been achieved based on sensed conditions and controlling of the baffles.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adiga et al. as evidenced Karamanos et al. as applied to claim 12 above and further evidenced by Gonzales et al. (US 2004/0084899 A1).

Regarding claim 15, although Adiga et al. fails to specifically disclose the step of creating turbulent flow on the ductwork it is well known that HVAC ductwork contains numerous bends and changes in the direction of the ducts in order to deliver a flow of air to different parts of the room or different floors of a building. Therefore, it is obvious that the method of Adiga et al. inherently includes the step of creating turbulent flow in the ductwork because when the flow encounters an elbow in the ductwork turbulence is created (as evidenced by Gonzales et al. (US 2004/0084899 A1) - see paragraph [0004]).

Allowable Subject Matter

8. Claims 16, 11 and 21-24 are allowed.

The following is an examiner's statement of reasons for allowance: The closest prior art to the applicant's claimed invention is Adiga et al. and Sias et al. (U.S. Patent Application publication No. US 2003/0035754 A1).

Adiga et al. disclose a process of decontaminating that includes the step of circulating hydrogen peroxide vapor (mist) through HVAC ducts as well as rooms of a building (see paragraphs [0048]-[0052]).

Sias et al. disclose a method of decontaminating buildings comprising: circulating a hydrogen peroxide vapor decontaminant through HVAC ductwork and associated rooms (see figure 8; see paragraphs [0026]-[0027], [0033], [0041]-[0042]).

However, neither of the above prior art references teach or fairly suggest the step of decontaminating HVAC subsystems more remote from a contamination site within the building and progressively decontaminating HVAC subsystems closer to the contamination site. Therefore, claims 16, 11 and 21-24 are allowable for the reasons stated above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 1744

9. Claims 25 and 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claims 20 and 29-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art to the applicant's claimed invention is Adiga et al. and Sias et al. (U.S. Patent Application publication No. US 2003/0035754 A1).

Adiga et al. disclose a process of decontaminating that includes the step of circulating hydrogen peroxide vapor (mist) through HVAC ducts as well as rooms of a building (see paragraphs [0048]-[0052]).

Sias et al. disclose a method of decontaminating buildings comprising: circulating a hydrogen peroxide vapor decontaminant through HVAC ductwork and associated rooms (see figure 8; see paragraphs [0026]-[0027], [0033], [0041]-[0042]).

However, the prior art fails to teach or fairly suggest the step of decontaminating HVAC subsystems more remote from a contamination site within the building and progressively decontaminating HVAC subsystems closer to the contamination site. The prior art also fails to specifically disclose the step of alternately circulating the hydrogen peroxide vapor in the one direction and then the opposite direction through the ductwork.

Response to Arguments

11. Applicant's arguments, see pages 6-8, filed June 8, 2007, with respect to the rejection of claims 12, 15, and 17 have been fully considered but they are not persuasive.

Regarding claim 12, the Applicant argues that neither Sias nor Adiga teach or fairly suggest circulating hydrogen peroxide in one direction and then in an opposite direction. Furthermore, the Applicant argues that Sias nor Adiga teach or fairly suggest allowing the vapor to dwell in the ductwork. The Examiner respectfully disagrees.

First, as stated in the rejection above, the HVAC ductwork of buildings includes numerous bends and changes in direction of the ductwork. Further, the return ductwork of the HVAC system circulates the air back through system so that it can be circulated again through the HVAC system. It is obvious that at some point the air flowing through the HVAC ductwork will initially flow in one direction and then in an opposite direction when returning through the return duct. Therefore, it is obvious that the vapor being circulated through the HVAC system of Adiga or Sias will initially circulate in one direction and then later circulate in an opposite direction when being circulated through a return duct. Secondly, in the process of Adiga and Sias the hydrogen peroxide vapor is circulated through the ductwork of the HVAC system for a period of time. This period of time is considered the dwell time since it is the time during the process wherein the hydrogen peroxide vapor passes through the ductwork. There is nothing in the claim that requires the vapor to dwell in the ductwork to reach a predetermined pressure and concentration equilibrium or exposing all portions of the ductwork to the full

Art Unit: 1744

concentration of the vapor or mist. Accordingly, claim 12 is rejected as indicated in section 5 above.

Regarding claim 15, the Applicant argues that Gonzales would not motivate one to modify Sias or Adiga to create turbulent flow. First, Gonzales was relied upon as evidence (and not to motivate someone to create turbulent flow) to show that turbulent flow is inherently created in the elbows of ductwork in an HVAC system and thus turbulent flow is inherently created in the HVAC system of Adiga et al. when hydrogen peroxide vapor is circulated through the ductwork. Therefore, claim 15 has been rejected accordingly.

Regarding claim 17, the Applicant argues that neither Adiga nor Karamonos disclose or fairly suggest adding temporary baffles with ductwork. The Examiner respectfully disagrees. The baffles of Karamonos had to be installed in the ductwork of the HVAC system at some point during or after construction of the HVAC system and therefore these baffles are also removable thus making them temporary since they can in fact be removed. Claim 17 is rejected as indicated in section 6 above.

12. Applicant's arguments, see page 8, filed June 8, 2007, with respect to the rejection of claim 16 have been fully considered and are persuasive. The rejection of claim 16 has been withdrawn. Claims 16, 11 and 21-24 have been indicated allowable for the reasons stated in section 9 of this office action.

13. Applicant's arguments, see page 8, filed June 8, 2007, with respect to the rejection of claim 17 under 35 U.S.C. 112, second paragraph, have been fully considered and the rejection is withdrawn in response to the amendment of claim 17 which corrects the lack of antecedent basis cited in the previous office action.

14. Applicant's arguments, see page 8, filed June 8, 2007, with respect to the double patenting rejection of claims 10 and 11, have been fully considered and the rejection is moot since claim 10 has been canceled and the dependency of claim 11 has been changed by amendment.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1744


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEC

September 6, 2007


GLADYS J. CORCORAN
SUPERVISORY PATENT EXAMINER